

Amendments to the Claims:

1.-8. (Cancelled)

9. (Previously Presented) A method for treating bone defects comprising the steps of mixing a powder comprising between about 99.8 to 100 percent by weight calcium sulfate hemihydrate, the calcium sulfate hemihydrate consisting of thick, stubby, rod-like crystals having a low water carrying capacity, with a diluent to produce an injectable resorbable bone graft material in the form of a paste; and injecting the injectable resorbable bone graft material in the bone defect, the injectable resorbable bone graft material having a compressive strength in excess of 15 MPa within one hour after said injecting step.

10. (Original) The method of claim 9, wherein said bone graft material has a compressive strength of approximately 45-49 MPa within one hour after said injecting step.

11. (Previously Presented) The method of claim 9, wherein said bone graft material has a compressive strength exceeding approximately 50 MPa within one hour after said injecting step.

12. (Currently Amended) A method for treating bone defects comprising the steps of mixing a powder comprising between about 99.8 to 100 percent by weight calcium sulfate hemihydrate, the calcium sulfate hemihydrate consisting of thick, stubby, rod-like crystals having a low water carrying capacity, with a diluent to produce an ~~injected~~ injectable resorbable bone graft material in the form of a paste; and injecting the injectable resorbable bone graft material in the bone defect, said injectable resorbable bone graft material having a compressive strength of at least 6 MPa within 20 minutes after said injecting step.

13. (Previously Presented) A method for treating bone defects comprising the steps of mixing a powder comprising between about 99.8 to 100 percent by weight calcium sulfate

hemihydrate, the calcium sulfate hemihydrate consisting of thick, stubby, rod-like crystals having a low water carrying capacity, with a diluent to produce an injectable resorbable bone graft material in the form of a paste; and injecting the injectable resorbable bone graft material in the bone defect, said injectable resorbable bone graft material having a compressive strength of at least 35 MPa within 24 hours after said injecting step.

14. (Original) The method of claim 13, wherein said bone graft material has a compressive strength of approximately 56 MPa within 24 hours after said injecting step.

15. (Currently Amended) A method for treating bone defects comprising the steps of mixing a powder comprising between about 99.8 to 100 percent by weight calcium sulfate hemihydrate, the calcium sulfate hemihydrate consisting of thick, stubby, rod-like crystals having a low water carrying capacity, with a diluent to produce an ~~injected~~ injectable resorbable bone graft material in the form of a paste, wherein when undergoing dry-testing, said bone graft material has a compressive strength of approximately 88 MPa within 24 hours after said mixing step.

16. (Original) The method of claim 15, wherein said bone graft material has a compressive strength exceeding approximately 106 MPa within 24 hours after said mixing step.

17. (New) The method of claim 9, wherein the diluent is water or a solution comprising an inorganic salt or a cationic surface active agent.

18. (New) The method of claim 9, wherein the calcium sulfate hemihydrate is formed by immersing calcium sulfate dihydrate in a solution of water and an inorganic salt to form a mixture, and heating the mixture to substantially its boiling point at atmospheric pressure such that the calcium sulfate dihydrate is converted to calcium sulfate hemihydrate.

19. (New) The method of claim 9, wherein the injectable resorbable bone graft material has a working time of at least 5 minutes following mixing.

20. (New) The method of claim 9, wherein the injectable resorbable bone graft material further comprises an accelerant.
21. (New) The method of claim 20, wherein the accelerant is selected from the group consisting of calcium sulfate dihydrate, calcium sulfate dihydrate coated with sucrose, potassium sulfate, and sodium sulfate.
22. (New) The method of claim 9, wherein the injectable resorbable bone graft material further comprises one or more additives selected from the group consisting of bone marrow aspirate, platelet concentrate, blood, antibiotics, chemotherapeutic agents, growth factors, and analgesics.
23. (New) The method of claim 9, wherein the diluent to powder weight ratio is 0.19:1 to 0.31:1.
24. (New) The method of claim 12, wherein the diluent is water or a solution comprising an inorganic salt or a cationic surface active agent.
25. (New) The method of claim 12, wherein the calcium sulfate hemihydrate is formed by immersing calcium sulfate dihydrate in a solution of water and an inorganic salt to form a mixture, and heating the mixture to substantially its boiling point at atmospheric pressure such that the calcium sulfate dihydrate is converted to calcium sulfate hemihydrate.
26. (New) The method of claim 12, wherein the injectable resorbable bone graft material has a working time of at least 5 minutes following mixing.
27. (New) The method of claim 12, wherein the injectable resorbable bone graft material further comprises an accelerant.

28. (New) The method of claim 27, wherein the accelerant is selected from the group consisting of calcium sulfate dihydrate, calcium sulfate dihydrate coated with sucrose, potassium sulfate, and sodium sulfate.

29. (New) The method of claim 12, wherein the injectable resorbable bone graft material further comprises one or more additives selected from the group consisting of bone marrow aspirate, platelet concentrate, blood, antibiotics, chemotherapeutic agents, growth factors, and analgesics.

30. (New) The method of claim 12, wherein the diluent to powder weight ratio is 0.19:1 to 0.31:1.

31. (New) The method of claim 13, wherein the diluent is water or a solution comprising an inorganic salt or a cationic surface active agent.

32. (New) The method of claim 13, wherein the calcium sulfate hemihydrate is formed by immersing calcium sulfate dihydrate in a solution of water and an inorganic salt to form a mixture, and heating the mixture to substantially its boiling point at atmospheric pressure such that the calcium sulfate dihydrate is converted to calcium sulfate hemihydrate.

33. (New) The method of claim 13, wherein the injectable resorbable bone graft material has a working time of at least 5 minutes following mixing.

34. (New) The method of claim 13, wherein the injectable resorbable bone graft material further comprises an accelerant.

35. (New) The method of claim 34, wherein the accelerant is selected from the group consisting of calcium sulfate dihydrate, calcium sulfate dihydrate coated with sucrose, potassium sulfate, and sodium sulfate.

36. (New) The method of claim 13, wherein the injectable resorbable bone graft material further comprises one or more additives selected from the group consisting of bone marrow aspirate, platelet concentrate, blood, antibiotics, chemotherapeutic agents, growth factors, and analgesics.

37. (New) The method of claim 13, wherein the diluent to powder weight ratio is 0.19:1 to 0.31:1.

38. (New) The method of claim 15, wherein the diluent is water or a solution comprising an inorganic salt or a cationic surface active agent.

39. (New) The method of claim 15, wherein the calcium sulfate hemihydrate is formed by immersing calcium sulfate dihydrate in a solution of water and an inorganic salt to form a mixture, and heating the mixture to substantially its boiling point at atmospheric pressure such that the calcium sulfate dihydrate is converted to calcium sulfate hemihydrate.

40. (New) The method of claim 15, wherein the injectable resorbable bone graft material has a working time of at least 5 minutes following mixing.

41. (New) The method of claim 15, wherein the injectable resorbable bone graft material further comprises an accelerant.

42. (New) The method of claim 41, wherein the accelerant is selected from the group consisting of calcium sulfate dihydrate, calcium sulfate dihydrate coated with sucrose, potassium sulfate, and sodium sulfate.

43. (New) The method of claim 15, wherein the injectable resorbable bone graft material further comprises one or more additives selected from the group consisting of bone marrow aspirate, platelet concentrate, blood, antibiotics, chemotherapeutic agents, growth factors, and analgesics.

44. (New) The method of claim 15, wherein the diluent to powder weight ratio is 0.19:1 to 0.31:1.